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1. An endoscopic system for internal inspection of an object comprising:

an endoscope extending along a longitudinal axis between a distal end to be inserted into the object and a proximal end;

an illumination assembly attached to the proximal end of the endoscope, the illumination assembly including a solid-state light source; and

an optical system positioned distally from the solid-state light source, the optical system receiving and conveying light to the distal end.

2. The endoscopic system of claim 1 wherein the solid-state light source includes a plurality of semiconductor light sources.

3. The endoscopic system of claim 2 wherein the plurality of semiconductor light sources include light emitting diodes (LEDs).

4. The endoscopic system of claim 2 wherein the solid-state light source includes a hollow shaft having a longitudinal axis and a set of ribs positioned along a

periphery of the shaft, each rib having a first side and a second side.

5 5. The endoscopic system of claim 4 wherein the ribs extend along the longitudinal axis of the shaft and are symmetrically spaced around the periphery of the shaft.

10 6. The endoscopic system of claim 5 wherein the first side of each rib has at least one LED and the second side of each rib has at least one LED.

7. The endoscopic system of claim 4 wherein each rib is axially spaced along the longitudinal axis of the shaft.

15 8. The endoscopic system of claim 7 wherein each rib has at least two LEDs spaced symmetrical on the first side of each rib.

20 9. The endoscopic system of claim 2 wherein the optical system includes a set of fiber optic elements, each semiconductor light source is configured to emit light to at least one corresponding fiber optic element.

10. The endoscopic system of claim 3 wherein the LEDs are grouped in a trio, each trio has a first LED configured to emit a blue light, a second LED configured to emit a red light, and a third LED configured to emit a green light.

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11. The endoscopic system of claim 1, further comprising:

a camera system proximally positioned to the optical system; and

10 a focusing system.

12. The endoscopic system of claim 1 wherein the endoscope is removable and replaceable from the illumination assembly.

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13. The endoscopic system of claim 1, further comprising an eyepiece positioned proximally to the optical system.

14. The endoscopic system of claim 9 wherein the endoscope includes a light post, the set of fiber optic elements connect the solid-state light source to the light post.

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15. The endoscopic system of claim 14 wherein the endoscope includes an eyepiece.

16. The endoscopic system of claim 15 wherein the light
5 post is positioned to receive light at an angle to the longitudinal axis.

17. The endoscopic system of claim 1, further comprising
a wireless transmitter positioned proximally from the distal
10 end of the endoscope and a battery positioned proximally to the distal end of the endoscope.

18. The endoscopic system of claim 1, wherein the endoscope includes an image sensor.

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19. The endoscopic system of claim 1 further comprising
an imaging sensor positioned proximally to the endoscope.

20. The endoscopic system of claim 19 wherein the
20 endoscope is configured to rotate about the longitudinal axis of the elongated member relative to the stationary imaging sensor.

21. An endoscopic system for internal inspection of an object comprising:

an endoscope extending along a longitudinal axis between a distal end to be inserted into the object and a proximal end; and

a solid-state light source positioned at the endoscope.

22. The endoscopic system of claim 21 wherein the solid-state light source is positioned in the distal end of the endoscope.

23. The endoscopic system of claim 21 wherein the solid-state light source is positioned at the proximal end of the endoscope.